

ABSTRACT OF THE DISCLOSURE

A valve pin assembly for an injection molding apparatus comprising a valve pin capable of movement up and down in a nozzle to open and close a ring gate. An annular passage is created through the nozzle and is unobstructed and without restriction at all points up to and through the ring gate, permitting melt to flow freely to the gate and, depending on the position of the valve pin, into the mold cavity. The valve pin has a head with a diameter larger than the valve pin shaft for selectively closing the gate. The ring gate channel diameter is larger than the melt channel diameter to permit parts with large apertures therein to be formed.